

REMARKS

The last Office Action of February 22, 2007 has been carefully considered. Reconsideration of the instant application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1, 3-8, 10-12, 15 are pending in the application. Claim 1 has been amended. No claims have been canceled or added. No amendment to the specification has been made. No fee is due.

It is noted that the drawings are objected to because of applicant's failure to show every feature set forth in the claims. It is further noted that the specification is objected to for failing to provide proper antecedent basis for claimed subject matter. Claims 1, 3-8, 10-12, 15 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

Claims 1, 4, 7, 8, 10, 11, 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over German Pat. No. DE 101 23 717.0 to Muller in view of U.S. Pat. Nos. 4,944,638 to Brohammer and 4,409,721 to Tomita et al.

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Muller, Brohammer and Tomita et al., and further in view U.S. Pat. No. 5,676,506 to Sugata.

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Muller, Brohammer and Tomita et al., and further in view U.S. Pat. No. 6,464,435 to Chen.

Claim 12 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Muller, Brohammer and Tomita et al.

OBJECTION TO THE DRAWING

The Examiner objected to the drawing because of applicant's failure to show the detachable connection between spindle head assembly and drive unit. Applicant respectfully disagrees. As shown in Fig. 1 and described in paragraph

[0022] of the instant specification, a coupling in form of meshing splines is provided between the spindle head shaft and the drive shaft. More specifically, the spindle head shaft includes a spline-shaped end (16) which meshes with a mating hollow wheel (17) non-rotatably connected with the drive shaft. This type of coupling, comprised of interacting spline-shaped end and hollow wheel, represents the detachable connection between the spindle head assembly and the drive unit.

Withdrawal of the objection to the drawing is thus respectfully requested.

OBJECTION TO THE SPECIFICATION

The objection to the specification is believed to be addressed by applicant's clarification under the preceding heading. Withdrawal of the objection to the specification is thus respectfully requested.

REJECTION UNDER 35 U.S.C. §112, FIRST PARAGRAPH

The rejection to the claims under 35 U.S.C. §112, first paragraph, is believed to be addressed by applicant's clarification under the preceding headings. In order to be clear, applicant has however amended claim 1 by changing the reference to "spindle unit" in the last line of claim 1 to --drive unit--. This change is self-explanatory, so that further discussion is not necessary.

Withdrawal of the rejection of the claims 1, 3-8, 10-12, 15 under 35 U.S.C. §112, first paragraph is thus respectfully requested.

REJECTION UNDER 35 U.S.C. §103(a)

Applicant respectfully disagrees with the Examiner's rejection of claim 1 for the following reasons:

With respect to the Muller reference, the Examiner acknowledges the absence of disclosure of an axial successive disposition between spindle head

assembly and drive unit, and of a detachable connection between spindle head assembly and drive unit, while the spindle [drive] unit rotates. To bridge the absence of teaching, the Examiner applied the Brohammer or Tomita references to produce the present invention. Applicant respectfully disagrees.

As noted by Brohammer in col. 1, ll. 61, 62, a removal of spindles is possible only, when the spindles are at a standstill. While, according to Brohammer, the removal of spindles can be easily realized, it still causes downtime. Therefore, Brohammer fails to disclose the possibility of a detachment, while the assembly is still in rotation.

The Tomita reference describes a machine tool having a spindle drive motor (31) which is mounted on the upper end of spindle head (10) and has an output shaft (22) which is connected to a drawing rod (22) via a gear mechanism (28, 29, 30). Apart from the absence of an axial successive relationship between the drive motor and the drawing rod, Tomita also fails to describe the kinetic relationship between the relevant parts of the spindle unit, as set forth in claim 1. Claim 1 has been amended to set forth the movement of the rotor of the drive unit, as the drive shaft moves in relation to the spindle head assembly. Support for this change in claim 1 can be found in paragraph [0020] of the instant specification, which describes the fixed rotative engagement between rotor and drive shaft ("rotor 5 [which] is shrink-fit on a drive shaft 6"). No such motion is executed by the rotor of the drive motor in Tomita, in the event of a tool change.

For the reasons set forth above, it is applicant's contention that neither Muller nor Brohammer, nor Tomita et al., nor any combination thereof teaches or suggests the features of the present invention, as recited in claim 1.

As for the rejection of the retained dependent claims, these claims depend on claim 1, share its presumably allowable features, and therefore it is respectfully submitted that these claims should also be allowed.

Withdrawal of the rejection of claims 1, 3-8, 10-12, 15 under 35 U.S.C. §103(a) and allowance thereof are thus respectfully requested.

CITED REFERENCES

Applicant has also carefully scrutinized the further cited prior art and finds it without any relevance to the claims on file. It is thus felt that no specific discussion thereof is necessary.

CONCLUSION

Applicant believes that when reconsidering the claims in the light of the above comments, the Examiner will agree that the invention is in no way properly met or anticipated or even suggested by any of the references however they are considered.

In view of the above presented remarks and amendments, it is respectfully submitted that all claims on file should be considered patentably differentiated over the art and should be allowed.

Reconsideration and allowance of the present application are respectfully requested.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully requested that such changes be made by Examiner's Amendment, if the Examiner feels this would facilitate passage of the case to issuance. If the Examiner feels that it might be helpful in advancing this case by calling the undersigned, applicant would greatly appreciate such a telephone interview.

Respectfully submitted,

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